DOCUMENT RESUME

ED 429 795 RC 021 950

AUTHOR Boylan, Colin; Tuovinen, Juhani
TITLE Celebrating Distance Teaching Innovations: The Certificate in Distance Teaching.
PUB DATE 1997-00-00
NOTE 11p.; In: Celebrating Rural Education: Proceedings of the National Conference of the Society for Provision of Education in Rural Australia (SPERA) (13th, Adelaide, South Australia, July 6-8, 1997); see RC 021 953.
PUB TYPE Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Distance Education; *Education Courses; *Educational Certificates; Elementary Secondary Education; Foreign Countries; Higher Education; *Inservice Teacher Education; Professional Development; *Rural Education; Telecommunications
IDENTIFIERS Australia (New South Wales); *Charles Sturt University (Australia); *Telematics

ABSTRACT

Charles Sturt University (Riverina, Australia) has initiated the Certificate in Distance Teaching course for rural teachers working in a distance education setting to extend their understandings about rural and distance education topics. Two semester-long subjects constitute the course: pedagogy of distance teaching and organization of distance teaching. The first subject's topics include types of distance education technologies and how they facilitate educational interaction, teaching and learning with distance technologies, preparing materials for distance teaching, specific examples of distance technology application, and emerging technologies that may be used in distance education. Materials include print, CD, video, and computer disk. The second subject consists of two print-based modules. Module 1 covers the systems thinking model of organization and an overview of policies in distance education in each state and territory. Module 2 covers management, technological, human resource, student welfare, and evaluative issues about teaching in a distance education setting. Evaluative information from course graduates found that the top two reasons participants chose the course were to improve distance teaching skills and to gain accreditation. The pedagogy subject was rated "very high" by 83 percent of participants, and the CD-ROM with examples of teachers' telematics lessons was rated the most useful resource. The organization subject was rated "very high" or "high" by all respondents. Suggested improvements are included. Contains 36 references. (TD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
✓ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Celebrating Distance Teaching Innovations: The Certificate in Distance Teaching

by
Colin Boylan and Juhani Tuovinen
School of Education
Charles Sturt University-Riverina

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
Sheila King
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

ED 429 795

INTRODUCTION

Over the past decade there has been a growing call by educational administrators, educators and teacher education institutions for pre-service programs to adequately prepare primary and secondary teachers for rural appointments (eg Watson, et al, 1986; Smith-Davis, 1989; Cross and Murphy, 1990; Luft, 1992; Metherell, 1989). As recently as 1995, Herzog and Pittman writing about the preparation of teachers for rural American schools stated that 'pre-service teacher education courses [in the USA] have done little to provide educators with specialised training for work in rural schools' (p.114). In contrast, a number of Australian teacher education institutions have responded to this call by including a subject on teaching in rural schools as part of the curriculum. (eg. King, 1994)

At Charles Sturt University (CSU), the Faculty of Education has maintained a long commitment to preparing teachers for rural appointments. Looking back through past SPERA conference presentations and past issues of the journal **Education in Rural Australia** the following CSU rural education programs have been described:

i) Boylan (1992), Walker and Boylan (1992), Squires, Sinclair and Bell (1991) and Squires and Sinclair (1992) have documented the impact of telematics on small rural central (K-12) schools in New South Wales.
ii) Boylan, Squires and Smith (1994) and Tuovinen and Boylan (1993, 1994) have documented the use of audiographic teleteaching (Telematics) in the pre-service teacher education courses on both the Bathurst and Wagga Wagga campuses of CSU;
iii) Hemmings and Boylan (1992) have demonstrated the positive effects a rural practice teaching experience had on student attitude towards rural teaching and preparedness to seek a rural appointment upon completion of the pre-service course;
iv) Boylan (1996) has described the outcomes on primary students of engaging in a distance education setting pre-service teaching experience in which the students participated in a DEC camp, developed and delivered on air lessons and visited some of the pastoral stations around the Distance Education Centre.
v) Collectively these authors have described and contributed to the teaching of specific primary and secondary pre-service subjects offered at CSU that are designed to prepare these students for a rural appointment.

Essentially, these programs have focussed on three key areas in the pre-service preparation of teachers:

i) the development of appropriate subject content material for inclusion in rural education subjects;
ii) the provision of rural practice teaching experiences for our students; and
iii) a responsiveness to the changing demands facing rural teachers by including new areas on the operation and use of telecommunications technology within our subjects in both the primary and secondary courses.

RC 021 950

BEST COPY AVAILABLE

By contrast an analysis of courses available for in-service teachers revealed little specific support was provided for qualified and practising rural teachers to extend their understandings about rural and distance education topics. At CSU, the Open Learning Institute offers distance education courses designed to upgrade teacher qualifications (3 year to 4 year trained) or to gain a higher qualification, eg Graduate Diploma, Masters degree, or Doctoral degree to both rural and urban teachers. In all of these courses there has been some attention devoted to studies about rural education and very little attention to distance education issues. There are one and a half rural education subjects available at the secondary upgrading bachelor/grad dip level; one rural education subject available at the Masters level, no rural education subject available at the upgrading primary Bachelor degree level and no rural education subject at the Doctoral level. Further there were no specific subjects offered at any level that dealt with issues specific to distance education.

In response to this perceived in-service problem, a specific program of further study was initiated in 1995 for teachers working in a distance education setting. This course is offered by the School of Education on the Wagga Wagga campus.

LITERATURE REVIEW

A search of ERIC and the AEI has revealed a paucity of published work on the provision of professional development programs for distance education teachers about distance teaching issues. Given the huge investments by government and private providers of distance education this was surprising. Our searches yielded some published work which is reported here.

Overseas literature

In his discussion on distance learning, Wilson (1996) states that there is a need for programs that equip teachers with insights into distance education delivery strategies. He states" There is a growing realisation that traditional techniques are not as effective in the distance education environment." (p.4) Unfortunately Wilson does not go onto to exploring what should be in such courses. Here the work of Thach and Murphy (1995) does shed some useful light on the nature of professional development courses for distance education teachers. These authors assert that specific focussed professional development programs are needed and that these courses should incorporate many of the ten distance teaching competencies they identified. Their competency list included: i) interpersonal communication; ii) planning skills; iii) collaboration/ teamwork; iv) English proficiency; v) writing skills; vi) organisational skills; vii) feedback skills; viii) knowledge of the distance education field; ix) basic technology knowledge; and x) technology access knowledge.

Cuffman and Macrae (1996) reported from their work that successful professional development for distance education staff occurred when course providers were able to address the specific distance teaching needs identified by the participants. Moffatt (1996) writing about the introduction of a telematics cluster on the South Island of New Zealand concluded that the provision of a focussed professional development program on telematics was essential for the successful implementation and adoption of this form of distance teaching. Further, she recommended that the professional development program must be offered over an extended period of time rather than the 3-4 days of inservice provided to the teachers who trialed the introduction of telematics. Finally, Danaher, Bartlettt and Rowan (1994) provided a cautionary warning to all distance educators when they state that distance education is more than a focus on the technology involved in its delivery. They argue strongly for teacher

professional development programs that empower the distance teacher to develop a critical perspective on the appropriate use of technology in which the learner and the learning process are best served.

Australian Literature

J. V. D'Cruz produced one of the earliest and most thorough evaluation reports of computer/telephone distance education (telematics) technology use in Victoria (D'Cruz, 1990). Five of his twelve recommendations related to the pre-service and/or inservice training needs of teachers. His recommendations included

i) state-wide policy development to provide professional development for distance education;
ii) inservice training for principals in the cost effectiveness analysis of providing alternate learning/teaching structures;
iii) encouragement of inservice training in the use of delivery systems, such as telematics;
iv) organisation of a bi-annual conference for distance education teaching and learning research, evaluation and discussion; and
v) encouragement of pre-service education in a range of distance education delivery systems.

Subsequently general references to the need for both pre-service and in-service teacher and educational administrator professional development in various aspects of distance education technologies and methodologies have been voiced throughout Australia (Hill, Meulenberg, McNamara, Dewildt, 1991; Wright, 1991; Oliver & Reeves, 1994; Gray, 1994; Smith, 1994; OLTC, 1995; Anderton & Nicholson, 1995).

More specifically the professional development and pre-service teacher training for telematics distance delivery of LOTE education has been pursued by Elizabeth Stacey and others (Stacey, 1992; Stacey & Turner, 1993; Stafford & Brown, 1993). In fact, Stafford & Brown argue that 'professional development of the teacher is, perhaps, the most important requirement in the use of technology in the delivery of (LOTE) curriculum (by telematics)' (Stafford & Brown, 1993, p.7).

Elizabeth Stacey has developed an innovative program of involving teacher education students preparing to be primary LOTE teachers to practice their skills with primary students in the distance mode. The implications for teacher preparation from this developmental work (Stacey & Turner, 1993, pp. 8-9) were argued to be

i) Telematics practicum experience needs formal recognition;
ii) Time allowance is required for technology-based distance education practicum organisation;
iii) Special funding is needed for such a program;
iv) Students need to have basic computer skills before participating in such a program;
v) School and teacher contributions must be recognised;
vi) Professional development is needed for the university staff who deliver the program, and
vii) Telematics needs to be used in other curriculum areas.

Michael Forster from Northern Territory took a broader view of the preparatory needs of distance education teachers in his paper to the 1993 SPERA conference (Forster, 1993). He argued for a review of the teacher training to enable a much larger proportion of teachers to participate in open learning than ever before, in fact, arguing that **all** teachers need to be

aware of broad range of open learning options and have personal competence in the field. He also highlighted the professional preparation needs of the facilitators of open learning, the teachers, the parents and the administrators involved in the many aspects of student learning delivered by non-traditional means. At the time of his review, 1993, Forster found only very scarce professional development preparation and support for the participants in the open learning process, and he argued for the provision of professional development in and by flexible and open learning methods for all participants in the educational enterprise. He particularly emphasised the importance of teacher professional development for rural teachers delivered via open/distance learning methods.

In the same conference Peter Sandery and Roy Lundin also commented on the national open learning professional development needs of teachers (Sandery & Lundin, 1993). They described the most urgent teacher professional development needs and argued that the appropriate use of distance education technologies can provide an effective means for providing the desired development. After identifying a number of barriers to open learning by teachers, they suggested educational institutions, such as schools, adopt resource-sharing and negotiated, planned community approaches to professional development based on the principles of 'telecottages' and 'learning organisations'. They argued for a balance between the personal and organisational professional development needs of the learning communities.

Their specific suggestions for each learning community (Sandery & Lundin, 1993, pp. 456-457) are worth repeating in an abbreviated form

i) All staff develop a personal five year professional development plan;
ii) School technology acquisitions need to be compatible with distance education delivery of courses;
iii) The professional development programs be included in total school curriculum planning and resourcing;
iv) All staff be encouraged to participate in professional associations;
v) Outcomes of the professional development are shared with the community;
vii) Staff participate in focus group electronic networks;
viii) Professional reading results are shared in the community;
ix) A professional events calendar is developed and used;
x) School development plans include incentives for staff development; and
xi) Staff need to model appropriate use of technology as learners.

Thus in the Australian literature a broad range of open/distance learning professional development needs and perspectives is canvassed, which may be met by open/distance learning provisions.

THE STRUCTURE OF THE COURSE

The work of Thach and Murphy (1995) guided the course developers in designing and selecting the content for inclusion in the Certificate. There are two semester long subjects that constitute the Certificate in Distance Teaching course. These subjects are offered each semester and students can enrol in one or both subject(s) per semester. Upon completion of these subjects, students are awarded the Certificate in Distance Teaching testamur and are eligible to gain academic transfer credit into Bachelor and Masters degrees offered by CSU. The subjects in the course are

i) Pedagogy of Distance Teaching, and
ii) Organisation of Distance Teaching.

BEST COPY AVAILABLE

Subject overview

The specific content of each subjects is briefly described below.

i) Pedagogy of Distance Teaching

In this subject the students are asked to consider eight topics. The first topic concerns the range and selection of common distance education technologies. The second topic canvasses modes of communication and how different forms of educational technologies facilitate the educational interactions. The third topic deals with issues related to teaching and learning with distance technologies and the fourth topic is about materials preparation for distance teaching.

The fifth and sixth topics deal with state specific exemplars of distance technology application. The seventh topic looks in depth at examples of teachers' work and telematics technology, and the final topic introduces emerging technologies that may be used in distance education.

The materials include print, CD, video, and computer disk. There is an optional residential school for the participants who are not yet confident enough to use telematics equipment on their own, and support for students is available throughout the subject by electronic mail and phone.

ii) Organisation of Distance Teaching

This subject consists of two modules. The materials are print based and include a set textbook, Notes written by the authors of the Modules and a set of Readings selected to support the organisation and sequencing of content..

Module 1 provides an introduction to the systems thinking model of organisational management (based on the work of Peter Senge) as well as an overview of current policies and developments in distance education in each state and territory. Module 2 examines the range of management, technological, human resource, student welfare and evaluative issues about teaching in a distance education setting. One of the important features in this subject is that the writers included key people in each state and territory's distance education organisational units.

Specifically the topics covered in this subject include:

a) the systems thinking model;
b) an overview of policies in distance education in Australia;
c) welfare issues;
d) methods of planning, control and implementation of distance education systems;
e) technology and teaching resource management
f) human resource development in distance education; and
g) evaluation in distance reaching.

THE CLIENTELE

The students who have enrolled in this course have come from a diversity of distance education settings. There are students who work in primary and secondary contexts located in Distance Education Centres that are either in rural locations (eg Alice Springs, Dubbo, Kalgoorlie) or in capital city locations (eg Sydney, Hobart, Darwin, Perth). We have had one student participate from British Columbia Canada. A number of students are rural classroom

teachers and teachers in promotion positions within distance education who use distance teaching strategies in their day to day teaching duties in schools. Often these teachers are using telematics as the delivery mode. Their location is diverse - from primary schools through to central schools/area schools/district high schools to secondary colleges/high schools. The only place we have not drawn participants from is the Australian Capital Territory.

More recently (ie Spring of 1997) a small group of our fourth year primary pre-service students have sought approval to enrol in the course specifically to gain this extra qualification to assist them in seeking full-time employment in a NSW Distance Education Centre.

To the end of 1996, there have been 21 students graduate from this course.

CLIENTELE FEEDBACK

As part of any course development, the views of the clientele are essential if the course is to continue. We have sought this evaluative information from the participants which is reported in three parts, namely i) information on the total course including reasons why the course was chosen, what benefits have been gained from the course and suggestion for changes in the course, ii) specific information on the Pedagogy of Distance Teaching subject; and iii) specific information on the Organisation of Distance Teaching subject.

Total course feedback

At the time of enrolment all participants were working in a distance education setting. When asked why they had decided to enrol a variety of reasons emerged which were collated, codified and analysed to produce three inclusive categories. For 3 in 5 participants (60%), they chose this course because they were specifically seeking professional development of their distance teaching skills, for another 30% of participants they were wanting to gain accreditation and the qualification as a recognition for their commitment to distance teaching, and finally, there was a small group (10%) who enrolled for personal improvement/satisfaction reasons.

The main benefits gained from the course were identified and are summarised in rank order of importance below:

i) improved quality in their teaching situation;
ii) better understanding of the issues in teaching in distance education;
iii) improved understanding of the use of technology;
iv) personal satisfaction from studying this course; and
v) employer recognition/accreditation.

Suggestions for change focussed on two areas: i) providing greater opportunity for students to engage in sharing sessions; and ii) specific suggestions on the inclusion technology based systems eg the Internet, Satellite delivery.

In summation the following quotations reflect the students' evaluation of the Certificate in Distance Teaching course.

"Really enjoyed the course. I got a lot out of it" (S2)

"Would recommend [the course] to any teacher wishing to coordinate subjects in an Access [telematics] program" (S5)

BEST COPY AVAILABLE

"I was appreciative of the flexibility of the lecturers in understanding that sometimes 'work' commitments get in the way of assignments, etc and allowing extra time" (S9)
"I did get a lot from this course and it has helped me write units of work for distance education. I couldn't turn on a computer before this course. Thanks a lot"(S10)

Pedagogy of distance teaching

83 % of course participants who commented on this subject had not experienced any problems with the course materials. The same number of the students found the main text either very useful or somewhat useful. The rest did not find it useful. A number indicated they had used the text ideas outside the course by the end of the subject, e.g. *"Very good & have used it outside my course work."*

The majority of respondents were satisfied with the study guide, with three people pointing out useful improvements to specific aspects of the guide. Two students commented that there were too many readings. (The intention of supplying a comprehensive set of reading resources in this subject was to ensure that all teachers should be provided instructional and exemplar materials applicable to their teaching, allowing them to use the relevant materials and ignore the rest.) Some people suggested changes in emphases with regard to the readings supplied, but most people found the readings beneficial.

The assignments were rated 'very beneficial' or 'satisfactory' by everyone, e.g. *"I found these very useful - creating resources as assignments - very beneficial personally, and for the centre."*

Of the resources provided with the subject the CD ROM with examples of teachers' telematics lessons was rated the most useful, e.g. *"CD ROM - apart from using it for the assignment, it made me reconsider some of what I was presenting to my students."* However, the videotape, Electronic Classroom manual disk, text and other printed materials were also commended by many participants.

On a satisfaction rating scale with five points, ranging from 'very high' to 'total waste of time', the subject was rated 'high' (second highest possible) by 83 % and 'moderate' by the remainder of the respondents.

The suggested improvements to the subject ranged from reducing readings required, providing directions for early start on assignments, providing two subjects on this topic in the course, and a closer focus on primary and secondary school specifics.

Organisation of distance teaching

Students were asked to comment on a variety of aspects of how the subject was organised. They were asked to report on their overall satisfaction with the Organisation of Distance Teaching subject using a 5 point scale (5=Very High through to 1= Very Low). the overall mean was 4.2 with all responses either falling on the 'Very High' (30%) or the 'High' (70%) alternatives.

A number of subject specific items were included that used a five point scale (5=Strongly Agree through to 1=Strongly Disagree) to determine the student's degree of support. The responses are summarised below. The "% 'Agree'" column represents the combined percentages of responses from the 'Strongly Agree' and the 'Agree' categories on the survey

BEST COPY AVAILABLE

	Item	Mean	% 'Agree'
i)	the subject aims were clear and concise	4.0	100
ii)	the textbook was useful in this subject	4.0	77
iii)	the assignments were related to the subject's aims	4.2	100
iv)	the Study Guide was well organised	3.9	89
v)	the Readings book was relevant to the subject's content	3.5	63

Suggestions were made on the nature of assignments to ensure that they had a practical basis and that the assignments were very helpful. One student stated *"I'm still using some of the work from the assignments"*(S6). The other area in which suggestions were made dealt with the book of Readings provided. Here some students suggested that the number of readings be reduced yet they also realised that this would be difficult as the audience for the subject is large *"but I realise it was a huge task"*(S8).

CONCLUSION AND FUTURE DEVELOPMENTS

At one level, CSU has been able to identify a specific professional development need for distance education teachers and develop a sustained course of study through the Certificate in Distance Teaching which meets many of these needs. Our challenge is to ensure that as the needs change so does the course offered.

At this point we invite you to list your future professional development needs as a distance education teacher. This will form the basis of a discussion session.

REFERENCES

Anderton, M. & Nicholson, A. (1995) New technology and curriculum design. A research project with NESB Distance learning Students. Sydney: National Centre for English Language Teaching and Research.

Barker, B.O. (1990) Distance Education in Rural Schools: Advantages and Disadvantages. Rural Educator, 12(1), 4-7.

Boylan, C. (1992) Teaching and Learning Using Telematics. In C. Boylan (Ed.) Rural Education in Pursuit of Excellence. Proceedings of 8th National Conference SPERA Inc. Armidale.

Boylan, C. (1996) Practice teaching in a Distance Education Centre: Expanding opportunities for teacher education students. Education in Rural Australia, 6(1), 37-41.

Boylan, C. and Hemmings, B. (1992) Long Distance Teaching: Students Technology and Teachers Working as One. Wagga Wagga: Charles Sturt University.

Boylan, C., Squires, D. and Smith, A. (1994) Audiographic Teleteaching in Pre-Service Teacher Education. Education in Rural Australia, 4(2), 23-28.

Cross, W. and Murphy, P. (1990) Preparing Teachers for Rural Schools: A Canadian Approach. Rural Educator, 11(3), 10-11.

BEST COPY AVAILABLE

Smith, R. (1994) Technologies for enhanced learning. Current and future use of technologies in school education. Report of the Victorian Government Working party on the use of Technology as an Education and Communication Facility in Schools. Melbourne: Directorate of School Education.

Smith-Davis, J. (1989) Recruiting and Retaining Special Educators for Rural Areas: Strategies from the Field. Educational Considerations, 17(11), 33-35.

Squires, D., Sinclair, R. and Bell, R. (1991) Schools Technology and Community Development. Paper presented at the 7th SPERA Conference, Hawkesbury, July.

Squires, D. and Sinclair, R. (1992) "I can be near my horses". Report on the Telematics Access Project in New South Wales. Sydney: New South Wales Department of School Education.

Stacey, E. (1992) Teaching with telematics. In ACEC'92 proceedings, Melbourne: CEGV, pp. 227-231.

Stacey, E. & Turner, L. (1993) Telematics teaching - a practicum of the future? 11the biennial forum. Distance Education Futures. Adelaide: ASPESA.

Stafford, J. & Brown, P. (1993) LOTE via Telematics. A resource manual for primary and secondary school teachers of LOTE using Telematics. South Melbourne: Country Education Project, Directorate of School Education.

Thach, E.C. and Murphy, K.L. (1995) Competencies for Distance Education Professionals. Educational Technology Research and Development. 43 (1) 57-79.

Tuovinen, J. E. and Boylan, C. (1993) Telematics educational enhancement project: A report. Wagga Wagga: Charles Sturt University.

Tuovinen, J. E. and Boylan, C. (1994) Telematics in preservice teacher education. Paper presented at APITITE'94 Conference, Brisbane.

Walker, R. and Boylan, C. (1992) Technology and Distance Education. Education in Rural Australia, 2(1), 63-66.

Watson, A., Hatton, N., Grundy, S. and Squires, D. (1986) Perceptions of Country Teaching: The Attitudes of Final Year Teacher Education Students towards Rural Appointments. Sydney: Education Commission of New South Wales.

Wilson A.T. (1996) Distance Learning: Technologies, Curriculum Development and Teacher education. ERIC document ED400807.

Wright, N. (1991) Senior secondary education via Telematics. Paper presented at the 1991 NSW CEG Conference.

Cuffman, D. and Macrae, N. (1996) Faculty Development Programs for Interactive Television. ERIC Document ED 400806.

D'Cruz, J. V. (1990) Technology in education. A study of policy and practice in rural schools. Victoria: Ministry of Education.

Danaher, P.A., Bartlett, V.L. and Rowan, L.O. (1994) Teachers' Professional Development through Open Learning Technologies. Paper presented at the 24th Annual Conference of the Australian Teacher Education Association, July.

Forster, M. F. (1993) Preparing teachers and supervisors for the expanded potential of 'distance' education. In D. Riley (ed.) Towards 2000: Schooling through distance education. Proceedings of the first national distance education conference. Cairns: SPERA, pp. 219-231.

Gray, A. (1994) Expanding opportunities for learning: Report for the National Country Area program on Alternative Delivery Systems. Brisbane:Open Access Support Centre.

Hemmings, B. and Boylan, C. (1992) Lessons for the Future: A remote rural practice teaching program. Education in Rural Australia, 2(2), 25-32.

Herzog, M.J. and Pittman, R.B. (1995) Home Family and Community. Phi Delta Kappan, 77(2), October, 113-118.

Hill, R., Meulenberg, P., McNamara, S., Dewildt, J. (1991) "..It doesn't just happen!..." A report of the Ministry Telematics Network Support Project. Victoria: Ministry of Education.

King, S. (1994) The importance of practical experience in a rural setting for pre-service teachers. Education in Rural Australia, 4(1), XXX_XXX.

Luft, V.D. (1992) Teacher Recruitment and Retention Practices in Rural School Districts. Rural Educator, 14(2), 20-24.

Metherell, T. (1989) Rural Schools Plan. Sydney: New South Wales Ministry of Education and Youth Affairs.

Moffatt, C. (1996) Establishing Distance Education networks in New Zealand: Practicalities, Past Present and Future. ERIC document ED 396736.

Oliver, R. & Reeves, T. (1994) Telematics in rural education. An investigation of the use of Telematics for the delivery of specialist programmes for students in rural schools. Mt. Lawley, WA: InTech: Innovations, Edith Cowan University.

OLTC (1995) Lote and professional development using audiographics. In OLTC Open Learning Cases Studies: The School Sector. Bedford Park, SA: OLTC.

Sandery, P. & Lundin, R. (1993) Teachers' professional development through open learning: Pitfalls and challenges. In D. Riley (ed.) Towards 2000: Schooling through distance education. Proceedings of the first national distance education conference. Cairns: SPERA, pp. 453-462.